Zoology Course 1.02

ANIMAL DIVERSITY, ECOLOGY AND BIODIVERSITY

2 CREDITS

Objectives

- To study the vertebrate classification.
- To understand some of the specialized features of each vertebrate class
- To study the interactions between animals and the environment

UNIT I: DIVERSITY OF ANIMAL KINGDOM II (15 Lectures)

General characteristics of the vertebrate classes with examples:

Class – Pisces – Swimbladder in Fishes.

Class – Amphibia – Parental Care in Amphibians.

Class – Reptilia – Adaptive Radiation in Reptiles.

Class – Aves – Types of beaks and feet in birds.

Class – Mammalia – Aquatic Mammals and their Adaptations.

UNIT II: ECOLOGY AND BIODIVERSITY (15 Lectures)

Ecology

Types of Ecosystems

Energy Flow

Food Chain and Food Web

Biogeochemical Cycles: Water, CO_2, Nitrogen and Phosphate

Biodiversity

Definition of biodiversity

Benefits and Conservation of Biodiversity

Factors affecting Biodiversity

REFERENCES:

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2. Invertebrate Zoology by P.S. Dhami and J.K. Dhami
3. Modern Textbook of Zoology - invertebrates by Kotpal
4. Invertebrate Zoology by Ruppert Barnes
5. Vertebrates by R.L.Kotpal
6. Chordate Zoology by Dhami and Dhami
7. Vertebrates by Jordan and Verma
8. Ecology: Principles and application by Chapman and Reiss
9. Principals of Ecology by Odum
10. Essentials of Ecology by Tyler and Miller
11. Biodiversity by SVS Rana
12. Fundamentals of Ecology by M C Dash
13. Ecology by N.S. Subrahmanyam and A.V.S.S. Sambamurty
14. Comparative animal physiology by P.C. Withers
15. Comparative animal physiology by Knut Schmidt-Neilson
16. Animal Physiology by Nagabhushanam
17. Animal Physiology by Satyanarayanan